

Application Serial No.: 10/799,460

Attorney Docket No.: 0160115

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JUL 31 2006**REMARKS**

This is in response to the *Non-Final* Office Action of June 8, 2006, where the Examiner has rejected claims 1-12. By the present Amendment and Response, applicant has amended claims 1-2, 5-8 and 11-12, cancelled claims 3-4 and 9-10, and added new claims 13-16. After the present Amendment and Response, claims 1-2, 5-8 and 11-16 are pending in the present application. Reconsideration and allowance of outstanding claims 1-2, 5-8 and 11-16 in view of the following remarks are requested.

**A. Objection to the Specification**

The Examiner has object to the specification for not reciting application serial numbers of the related U.S. applications. By the present Amendment and Response, applicant has amended the specification to recite the serial numbers of the related U.S. applications on the first page of the patent application. Accordingly, it is respectfully submitted that the Examiner's objection has been overcome.

**B. Rejection of Claims 1-12 under 35 USC §102(b)**

The Examiner has rejected claims 1-12, under 35 USC §102(b), as being anticipated by Unno, et al. (USPN 6,453,287) ("Unno").

By the present Amendment and Response, applicant has amended claim 1 to recite: "selecting a target window of said plurality of windows at an original position; calculating a total energy of said target window by summing an energy of each of a plurality of samples within said target window; sliding said target window in a first direction, with respect to said original

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position, by a sample to redefine said target window; computing said total energy of said target window after said sliding; repeating said sliding and said computing, for a pre-defined number of samples to obtain a total energy for each of said target windows; determining a maximum total energy among every said total energy obtained from said target windows; and computing a pitch correlation based on said target window having said maximum total energy.” Applicant respectfully submits that claim 1, as amended, is patentably distinguishable over Unno at least for the reasons stated below.

It is respectfully submitted that Unno discloses a complex scheme for pitch determination. As explained in Unno:

In each window, the maximum normalized pitch correlation  $r_i(T_i)$  and the associated pitch lag,  $T_i$ , is determined and the final pitch lag selected as the pitch lag associated with the maximum normalized pitch correlation  $r(T)$  in all windows .... (Col. 6, lines 25-29) (emphasis added.)

In contrast, in the invention of claim 1, as amended, pitch correlation is not calculated for each and every target window, as it slides. Rather, according to claim 1, for each target window, the total energy of the target window is computed as the target window slides, and once the maximum total energy among all computed total energy of the target windows is determined, then pitch correlation is calculated based on the target window having been identified with the maximum total energy. Indeed, Unno’s scheme of calculating the pitch correlation for each and every window is quite time-consuming and complex. Whereas, the invention of claim 1, as amended, offers an efficient way of improving the pitch determination by determining the energy within each target window, rather than calculating the pitch correlation for each target window. It is further noted because of the difference in approach between Unno and claim 1 of the present invention, the same target frame may not necessarily be selected by these two different

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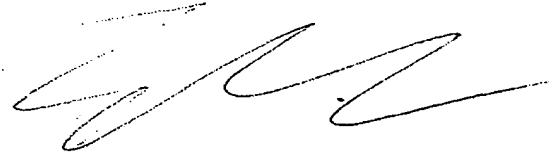
approaches. Applicant respectfully submits that the invention of claim 1 is more efficient and superior to the complex scheme of Unno.

Accordingly, for the reasons stated above, it is respectfully submitted that claim 1, as amended, is patentable over Unno. In addition, independent claims 7 and 13 include limitations similar to those of claim 1, as amended, and should be allowed for the same reasons stated above. Further, claims 2, 5-6, 8, 11-12 and 14-16 depend from claims 1, 7 and 13, respectively, and should be allowed at least for the reasons stated above.

**C. Conclusion**

Based on the foregoing reasons, an early Notice of Allowance directed to all claims 1-2, 5-8 and 11-16 pending in the present application is respectfully requested.

Respectfully Submitted,  
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